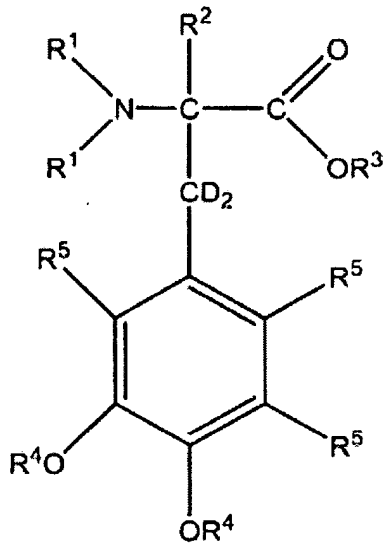
**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

Claim 1. (Canceled)

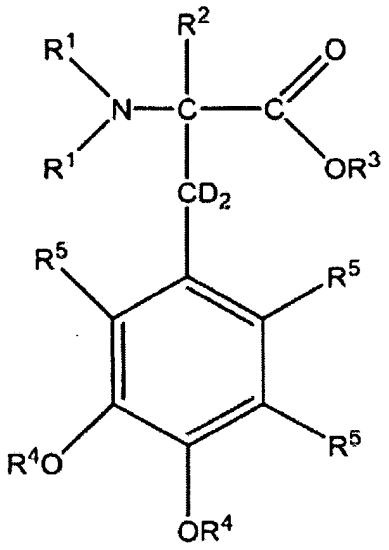
2. (Currently amended) Deuterated catecholamine derivatives ~~according to claim 1~~ of the general formula I



Formula I,

wherein $R^1$ is H or D, $R^2$ indicates H or D, $R^3$ is H, D, $C_1$ to $C_6$-alkyl or $C_5$ to $C_6$-cycloalkyl, deuterated $C_1$ to $C_6$-alkyl or deuterated $C_5$ to $C_6$-cycloalkyl, $R^4$ indicates H or D and $R^5$ is D and wherein at least one of $R^1$, $R^2$, $R^3$ and $R^4$ is D.

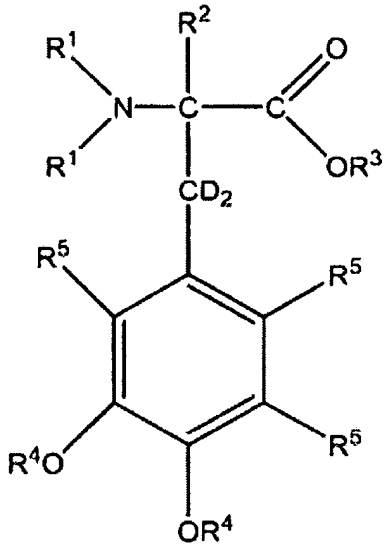
3. (Currently amended) Deuterated catecholamine derivatives ~~according to claim 1~~ of the general formula I




Formula I,

wherein $R^1$ is H or D, $R^2$ indicates D, $R^3$ is D, $C_1$ to $C_6$-alkyl or $C_5$ to $C_6$-cycloalkyl, deuterated $C_1$ to $C_6$-alkyl or deuterated $C_5$ to $C_6$-cycloalkyl, $R^4$ indicates H or D and $R^5$ is D.

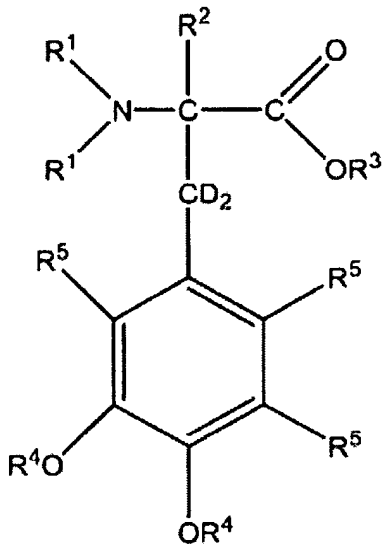
4. (Currently amended) Deuterated catecholamine derivatives ~~according to claim 1~~ of the general formula I



Formula I,

wherein $R^1$ is H or D, $R^2$ indicates D, $R^3$ is H, D, $C_1$ to $C_6$-alkyl or $C_5$ to $C_6$-cycloalkyl, deuterated $C_1$ to $C_6$-alkyl or deuterated $C_5$ to $C_6$-cycloalkyl, $R^4$ indicates H or D and $R^5$ is D.

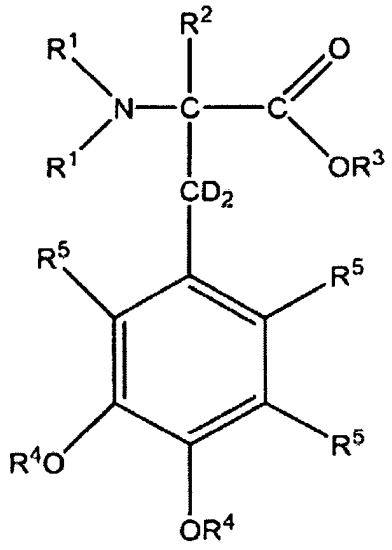
5. (Currently amended) Deuterated catecholamine derivatives ~~according to~~ of the general formula I



Formula I,

wherein $R^1$ is H or D, $R^2$ indicates D, $R^3$ is $C_1$ to $C_6$-alkyl or $C_5$ to $C_6$-cycloalkyl, $R^4$ indicates H or D and $R^5$ is D.

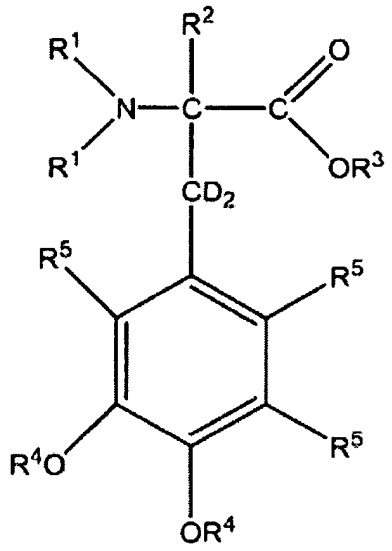
6. (Currently amended) Deuterated catecholamine derivatives ~~according to claim 1~~ of the general formula I




Formula I,

wherein $R^1$ is H or D, $R^2$ indicates D, $R^3$ is methyl, $R^4$ indicates H or D and $R^5$ is D.

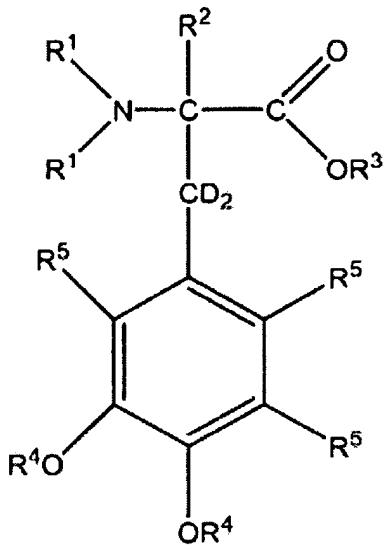
7. (Currently amended) Deuterated catecholamine derivatives ~~according to claim 1~~ of the general formula I




Formula I,

wherein $R^1$ is H or D, $R^2$ indicates D, $R^3$ is ethyl, $R^4$ indicates H or D and $R^5$ is D.

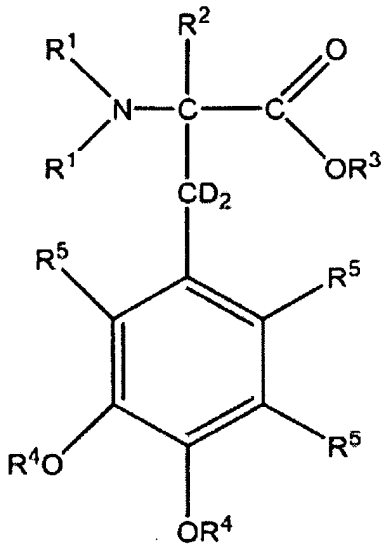
8. (Currently amended) Deuterated catecholamine derivatives ~~according to claim 1~~ of the general formula I




Formula I,

wherein $R^1$ is H or D, $R^2$ indicates D, $R^3$ is perdeuteroethyl, $R^4$ indicates H or D and $R^5$ is D.

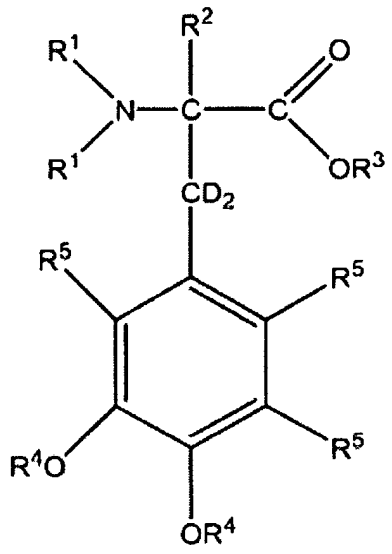
9. (Currently amended) Deuterated catecholamine derivatives ~~according to claim 1~~ of the general formula I




Formula I,

wherein $R^1$ is H or D, $R^2$ indicates H or D, $R^3$ is perdeuteroethyl, $R^4$ indicates H or D and $R^5$ is D.

10. (Currently amended) Deuterated catecholamine derivatives ~~according to claim 1~~ of the general formula I



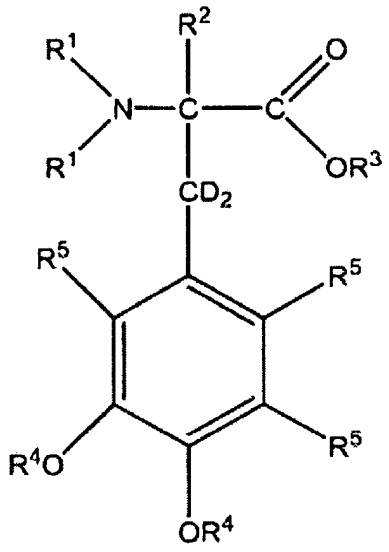

Formula I,

wherein $R^1$ is H or D, $R^2$ indicates H or D, $R^3$ is perdeuteroethyl, $R^4$ indicates D and $R^5$ is H or D.

Claims 11-33 (Canceled).

34. (Currently amended) A method for the treatment of dopamine deficiency diseases or diseases which are based on disrupted tyrosine transport or disrupted tyrosine decarboxylase, such as Parkinson's disease, restless leg syndrome, dystonia, for inhibiting prolactin secretion, for stimulating the release of growth hormone, for the treatment of neurological symptoms of chronic manganese intoxications, of amyotrophic lateral sclerosis and of multiple system atrophy, said method comprising administering to a patient in need thereof an effective amount of ~~the~~

~~deuterated catecholamine derivatives according to claim 1~~ a substantially enantiomerically pure compound of general formula I



Formula I,

wherein $R^1$ is H or D, $R^2$ indicates H or D, $R^3$ is H, D, $C_1$-$C_6$ alkyl or $C_5$ to $C_6$-cycloalkyl, deuterated $C_1$ to $C_6$-alkyl or $C_5$ to $C_6$-cycloalkyl, $R^4$ indicates H or D and $R^5$ is H or D, and wherein the substantially enantiomerically pure compound is selected from the group consisting of

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) propionic acid;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) methyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) ethyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) cyclohexyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) perdeuteromethyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) perdeuteroethyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) perdeuterocyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) propionic acid;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) methyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) ethyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) cyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) perdeuteromethyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) perdeuteroethyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) perdeuterocyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) propionic acid;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) methyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) ethyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) cyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) perdeuteromethyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) perdeuteroethyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) perdeuterocyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dideuteroxyphenyl) perdeuterocyclohexyl propionate; and

L-2-amino-3,3-dideutero-3-(4,5-dideuteroxyphenyl) perdeuterocyclohexyl propionate,

as well as physiologically compatible salts thereof.

35. (Currently amended) ~~A~~ The method ~~for the treatment of dopamine deficiency diseases or diseases which are based on disrupted tyrosine transport or disrupted tyrosine decarboxylase, such as Parkinson's disease, restless leg syndrome, dystonia, for inhibiting prolactin secretion, for stimulating the release of growth hormone, for the treatment of neurological symptoms of chronic manganese intoxications, of amyotrophic lateral sclerosis and of multiple system atrophy, said method comprising administering to a patient in need thereof an effective amount of deuterated catecholamine derivatives according to~~ of claim ~~1~~ 34 ~~as well as physiologically compatible salts thereof~~, wherein the substantially enantiomerically pure compound as well as physiologically compatible salts thereof is administered in combination with an enzyme inhibitor or several enzyme inhibitors.

36. (Previously presented) The method as claimed in claim 35 wherein the enzyme inhibitor or the enzyme inhibitors involve decarboxylase inhibitors and/or catechol-O-methyltransferase inhibitors and/or monoamine oxidase inhibitors and/or β-hydroxylase inhibitors.

37. (Previously presented) The method as claimed in claim 36 wherein the decarboxylase inhibitor is selected from the group consisting of D,L-serine 2-(2,3,4-trihydroxybenzyl) hydrazide (benserazide), (-)-L-α-hydrazino-3,4-dihydroxy-α-methylhydrocinnamic acid (carbidopa), L-serine 2-(2,3,4-trihydroxybenzyl) hydrazide, glycine 2-(2,3,4-trihydroxybenzyl) hydrazide and L-

tyrosine 2-(2,3,4-trihydroxybenzyl) hydrazide as well as physiologically compatible salts thereof.

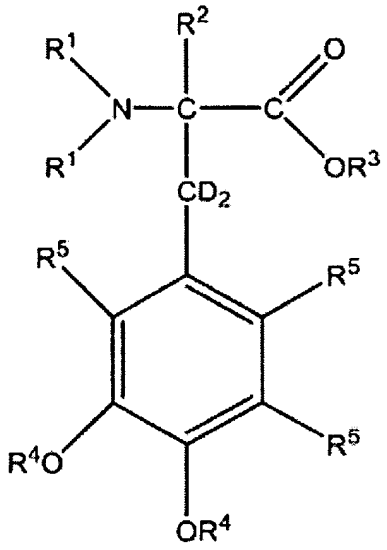
38. (Previously presented) The method as claimed in claim 36 wherein the catechol-O-methyltransferase inhibitor is selected from entacapone and cabergoline as well as physiologically compatible salts thereof.

39. (Previously presented) The method as claimed in claim 36 wherein the monoamine oxidase inhibitor is selected from the group consisting of selegiline, moclobemide and tranylcypromine as well as physiologically compatible salts thereof.

40. (Previously presented) The method as claimed in claim 36 wherein the β-hydroxylase inhibitor is selected from calcium 5-butyl picolinate and calcium 5-pentyl picolinate as well as physiologically compatible salts thereof.

41. (Currently amended) A method for the production of pharmaceuticals for treatment of dopamine deficiency diseases or diseases which are based on disrupted tyrosine transport or disrupted tyrosine decarboxylase, such as Parkinson's disease, restless leg syndrome, dystonia, for inhibiting prolactin secretion, for stimulating the release of growth hormone, for the treatment of neurological symptoms of chronic manganese intoxications, of amyotrophic lateral sclerosis and of multiple system atrophy, said method comprising the steps of providing ~~deuterated catecholamine derivatives according to claim 1~~ a substantially enantiomerically pure compound

of general formula I




Formula I,

wherein $R^1$ is H or D, $R^2$ indicates H or D, $R^3$ is H, D, $C_1$-$C_6$ alkyl or $C_5$ to $C_6$-cycloalkyl, deuterated $C_1$ to $C_6$-alkyl or $C_5$ to $C_6$-cycloalkyl, $R^4$ indicates H or D and $R^5$ is H or D, and wherein the substantially enantiomerically pure compound is selected from the group consisting of

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) propionic acid;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) methyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) ethyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) cyclohexyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) perdeuteromethyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) perdeuteroethyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) perdeuterocyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) propionic acid;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) methyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) ethyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) cyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) perdeuteromethyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) perdeuteroethyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) perdeuterocyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) propionic acid;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) methyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) ethyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) cyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) perdeuteromethyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) perdeuteroethyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) perdeuterocyclohexyl propionate;

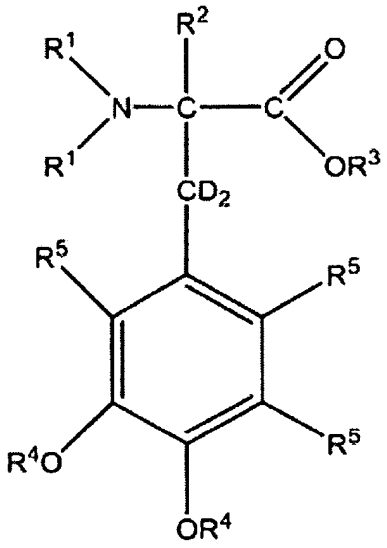
L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dideuteroxyphenyl) perdeuterocyclohexyl propionate; and

L-2-amino-3,3-dideutero-3-(4,5-dideuteroxyphenyl) perdeuterocyclohexyl propionate,

as well as physiologically compatible salts thereof and combining said ~~deuterated catecholamine~~

~~derivates~~ substantially enantiomerically pure compound and ~~their~~ physiologically compatible salts with pharmaceutically compatible adjuvants and additives.

42. (Currently amended) A pharmaceutical composition for the treatment of Parkinson's disease, of restless leg syndrome, of dystonia, for inhibiting prolactin secretion, for stimulating the release of growth hormone, for the treatment of neurological symptoms of chronic manganese intoxications, of amyotrophic lateral sclerosis and of multiple system atrophy, which pharmaceutical composition ~~contains deuterated catecholamine according claim 1~~ comprises a substantially enantiomerically pure compound of general formula I




Formula I,

wherein $R^1$ is H or D, $R^2$ indicates H or D, $R^3$ is H, D, $C_1$-$C_6$ alkyl or $C_5$ to $C_6$-cycloalkyl, deuterated $C_1$ to $C_6$-alkyl or $C_5$ to $C_6$-cycloalkyl, $R^4$ indicates H or D and $R^5$ is H or D, and

wherein the substantially enantiomerically pure compound is selected from the group consisting of

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) propionic acid;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) methyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) ethyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) cyclohexyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) perdeuteromethyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) perdeuteroethyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) perdeuterocyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) propionic acid;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) methyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) ethyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) cyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) perdeuteromethyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) perdeuteroethyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) perdeuterocyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) propionic acid;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) methyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) ethyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) cyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) perdeuteromethyl

propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) perdeuteroethyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) perdeuterocyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dideuteroxyphenyl) perdeuterocyclohexyl propionate; and

L-2-amino-3,3-dideutero-3-(4,5-dideuteroxyphenyl) perdeuterocyclohexyl propionate,

as well as physiologically compatible salts thereof, in addition to pharmaceutically compatible adjuvants and additives.

43. (Currently amended) ~~A~~ The pharmaceutical composition~~, which contains a deuterated catecholamine derivative according to claim 1 as well as physiologically compatible salts thereof, as well as~~ of claim 42 further comprising one or more enzyme inhibitors~~, in addition to pharmaceutically compatible adjuvants and additives~~.

44. (Original) The pharmaceutical composition according to claim 43, further characterized in that the enzyme inhibitor or the enzyme inhibitors involve decarboxylase inhibitors and/or catechol-O-methyltransferase inhibitors and/or monoamine oxidase inhibitors and/or β-hydroxylase inhibitors.

45. (Original) The pharmaceutical composition according to claim 43, further characterized in

that the decarboxylase inhibitor is selected from the group consisting of D,L-serine 2-(2,3,4-trihydroxybenzyl) hydrazide (benserazide), (-)-L-α -hydrazino-3,4-dihydroxy-α-methylhydrocinnamic acid (carbidopa), L-serine 2-(2,3,4-trihydroxybenzyl) hydrazide, glycine 2-(2,3,4-trihydroxybenzyl) hydrazide and L-tyrosine 2-(2,3,4-trihydroxybenzyl) hydrazide as well as physiologically compatible salts thereof.

46. (Original) The pharmaceutical composition according to claim 43, further characterized in that the catechol-O-methyltransferase inhibitor is selected from entacapone and cabergoline as well as physiologically compatible salts thereof.

47. (Original) The pharmaceutical composition according to claim 43, further characterized in that the monoamine oxidase inhibitor is selected from the group consisting of selegiline, moclobemide and tranylcypromine as well as physiologically compatible salts thereof.

48. (Original) The pharmaceutical composition according to claim 43, further characterized in that the β-hydroxylase inhibitor is selected from calcium 5-butyl picolinate and calcium 5-pentyl picolinate as well as physiologically compatible salts thereof.

Claims 49-63 (Canceled).